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| 10/032,371 | 12/21/2001 | Robert T. Arntz | 706240US1 | 5140 |

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| EXAMINER | |
|---|---|
| MILORD, MARCEAU | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2682 | |

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/032,371 | ARNTZ, ROBERT T. | |
| | Examiner | Art Unit | |
| | Marceau Milord | 2682 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 7-14, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed (US Patent No 6175787 B1) in view of Doyle et al (US Patent No 5850188) and Suman et al (US Patent No 6028537).

Regarding claim 1, 19, Breed discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic (col. 4, line 44- col. 5, line 28), the vibration diagnostic instrument (170 of fig. 1) comprising: an instrument housing having a coupling mechanism adapted for releasably coupling the instrument housing to a pre-selected location on a vehicle; a sensor (153 of fig. 1) positioned at the coupling mechanism for sensing vibrations and generating a sensor signal in response thereto (col. 8, line 59- col. 9, line 29; col. 10, lines 36-42; col. 12, lines 48-57).

However, Breed does not specifically disclose a controller resident in the instrument housing and coupled to the sensor for receipt of the sensor signal, the controller including a transmitter portion that generates a diagnostic signal based on the received sensor signal, the transmitter portion wirelessly transmitting the diagnostic signal for receipt by a remotely located receiver.

On the other hand, Doyle et al, from the same field of endeavor, discloses a transmitter that includes a transmitting unit for transmitting the plurality of signals to the receiving unit, a control unit operatively connected to the transmitting unit for controlling transmission of the plurality of signals and a diagnostic gathering and a storage unit electrically connected to the control unit for supplying diagnostic data to the control unit. Furthermore, the transmitter that includes a key fob unit selectively connected to the control unit and to the diagnostic unit (figs. 1-3; col. 2, line 41- col. 3, line 19). In addition, the transmitting means includes link means for transferring the diagnostic data by means of a modulated radio frequency carrier (col. 4, lines 1-67).

Suman et al discloses a control system that includes a transceiver for sending and receiving RF signals, a processor coupled to the transceiver, a location identifying sensor coupled to the processor for supplying vehicle location data, a user interface coupled to the processor for providing information to a user and for enabling a user to input commands to be executed by the processor, and a vehicle accessory interface for coupling the processor to a vehicle accessory control circuit to enable the processor to issue commands to a vehicle accessory (col. 2, line 43- col. 4, line 21; col. 6, lines 1-49; col. 36, lines 31-55). The vehicle control circuit also includes driver command control switches, such as a keyboard or push-button

switches coupled to the microprocessor via driver interface and bus. The control system also includes a navigation module coupled to a suitable receiving antenna (col. 9, line 3- col. 10, line 15). The location identifying sensor, such as a GPS or differential GPS module having a GPS antenna to provide an indication of the vehicle's location (col. 11, lines 1-29). The vehicle is provided with a self-diagnostic system that is connected to vehicle bus, which may be used to allow for remote diagnostics to be performed on the vehicle (col. 15, lines 52- col. 16, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Suman to the modified system of Doyle and Breed in order to provide a system that can identify the location of a vehicle, and can be used to immobilize and disable the vehicle in response to an appropriate command delivered in a radio frequency paging signal.

Regarding claim 7, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic (col. 4, line 44- col. 5, line 28), wherein a radio frequency band over which the diagnostic signal is transmitted may be selected from a plurality of predetermined radio frequency bands (col. 8, line 60- col. 9, line 23).

Regarding claim 8, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic (col. 4, line 44- col. 5, line 28), wherein the controller further includes a microprocessor portion that is configured to automatically power the vibration diagnostic instrument down after a predetermined amount of time has elapsed (col. 8, line 60- col. 9, line 23;col. 10, line 36- col. 11, line 22; col. 14, lines 5-50).

Regarding claim 9, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic (col. 4, line 44- col. 5, line 28), comprising a

power source, the power source including a battery and a switching power supply (col. 13, line 1- col. 14, line 50).

Regarding claim 10, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic (col. 4, line 44- col. 5, line 28), wherein the power source further includes a voltage detector for monitoring a voltage of the battery, the voltage detector being configured to detect when the voltage of the battery is less than a predetermined voltage threshold and to responsively generate a low voltage signal (col. 8, line 60- col. 9, line 23; col. 15, lines 8-52).

Regarding claims 11, 14, 20, Breed discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic, the vibration diagnostic instrument (170 of fig. 1) comprising: an instrument housing including a clamp that is configured to be coupled to a component or a structure of an automotive vehicle (col. 4, line 44- col. 5, line 28); a sensor (153 of fig. 1) coupled to the clamp, the sensor being operable for sensing vibrations and generating a sensor signal in response thereto (col. 8, line 59- col. 9, line 29; col. 10, lines 36-42; col. 12, lines 48-57).

However, Breed does not specifically disclose a controller resident in the instrument housing and coupled to the sensor for receipt of the sensor signal, the controller including a transmitter portion that generates a diagnostic signal based on the received sensor signal, the transmitter portion wirelessly transmitting the diagnostic signal for receipt by a remotely located receiver.

On the other hand, Doyle et al, from the same field of endeavor, discloses a transmitter that includes a transmitting unit for transmitting the plurality of signals to the receiving unit, a

control unit operatively connected to the transmitting unit for controlling transmission of the plurality of signals and a diagnostic gathering and a storage unit electrically connected to the control unit for supplying diagnostic data to the control unit. Furthermore, the transmitter that includes a key fob unit selectively connected to the control unit and to the diagnostic unit (figs. 1-3; col. 2, line 41- col. 3, line 19). In addition, the transmitting means includes link means for transferring the diagnostic data by means of a modulated radio frequency carrier (col. 4, lines 1-67).

Suman et al discloses a control system that includes a transceiver for sending and receiving RF signals, a processor coupled to the transceiver, a location identifying sensor coupled to the processor for supplying vehicle location data, a user interface coupled to the processor for providing information to a user and for enabling a user to input commands to be executed by the processor, and a vehicle accessory interface for coupling the processor to a vehicle accessory control circuit to enable the processor to issue commands to a vehicle accessory (col. 2, line 43- col. 4, line 21; col. 6, lines 1-49; col. 36, lines 31-55). The vehicle control circuit also includes driver command control switches, such as a keyboard or push-button switches coupled to the microprocessor via driver interface and bus. The control system also includes a navigation module coupled to a suitable receiving antenna (col. 9, line 3- col. 10, line 15). The location identifying sensor, such as a GPS or differential GPS module having a GPS antenna to provide an indication of the vehicle's location (col. 11, lines 1-29). The vehicle is provided with a self-diagnostic system that is connected to vehicle bus, which may be used to allow for remote diagnostics to be performed on the vehicle (col. 15, lines 52- col. 16, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to apply the technique of Suman to the modified system of Doyle and Breed in order to provide a system that can identify the location of a vehicle, and can be used to immobilize and disable the vehicle in response to an appropriate command delivered in a radio frequency paging signal.

Regarding claim 12, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic, the vibration diagnostic instrument (170 of fig. 1), wherein the clamp includes a pair of clamp halves and a spring, the clamp halves being pivotably coupled to one another, each of the clamp halves including a jaw portion, the spring exerting a force onto the clamp halves that biases the jaw portions toward one another, the sensor being coupled to one of the jaw portions (col. 8, line 59- col. 9, line 29; col. 10, lines 36-42; col. 12, lines 48-57 ; col. 13, line 13- col. 14, line 47).

Regarding claim 13, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic, the vibration diagnostic instrument (170 of fig. 1), wherein the sensor is a piezoelectric bender (col. 8, line 59- col. 9, line 29;col. 15, lines 7-52).

Regarding claim 18, Breed as modified discloses a vibration diagnostic instrument (figs. 1-2) for use by an automotive maintenance mechanic, the vibration diagnostic instrument (170 of fig. 1), wherein a radio frequency band over which the diagnostic signal is transmitted may be selected from a plurality of predetermined radio frequency bands (col. 13, line 13- col. 14, line 47; col. 15, lines 7-52).

3. Claims 3-6, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed (US Patent No 6175787 B1) in view of Doyle et al (US Patent No 5850188) and Suman (US

6028537) as applied to claims 1 and 11 above, and further in view of Diaz et al (US Patent No 6356822 B1).

Regarding claims 3-6, Breed, Doyle, and Suman disclose everything claimed as explained above except the radio waves are transmitted over an FM frequency band, wherein the FM frequency band is in the range of about 87.9 MHz to about 92.9 MHz.

However, Diaz et al discloses a communication system which includes a multi-functional antenna system for the vehicle that has the capability to receive AM/FM radio and television signals, and transmit and receive radio signals, satellite and microwave and cellular phone communications (figs. 1-3; col. 2, lines 5- 27; col. 6, lines 45-61; col. 8, lines 36- 56; col. 9, lines 5- 18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Diaz to the modified system of Suman, Doyle and Breed in order to provide a remote entry key fob transmitter that possesses diagnostic information.

Regarding claims 15-17, Breed, Doyle, and Suman disclose everything claimed as explained above except the radio waves that are transmitted over an FM frequency band, wherein the FM frequency band may be selectively changed between a plurality of predetermined FM radio frequency bands in the range of about 87.9 MHz to about 92.9 MHz.

However, Diaz et al discloses a communication system which includes a multi-functional antenna system for the vehicle that has the capability to receive AM/FM radio and television signals, and transmit and receive radio signals, satellite and microwave and cellular phone communications (figs. 1-3; col. 2, lines 5- 27; col. 6, lines 45-61; col. 8, lines 36- 56; col. 9, lines 5- 18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to apply the technique of Diaz to the modified system of Suman, Doyle and Breed in order to provide a remote entry key fob transmitter that possesses diagnostic information.

Response to Arguments

4. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

MARCEAU MILORD
PRIMARY EXAMINER

Marceau Milord

Primary Examiner

Art Unit 2682

5-28-05